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ASSIGNMENT BOOKLET
SCN3240 Chemistry 30
Module 2 Assignment

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Date Assignment Submitted: _____	(If label is missing or incorrect) Student File Number: _____
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Assigned Teacher: _____

Assignment Grading: _____

Graded by: _____

Date Assignment Received:

Student's Questions and Comments

Apply Module Label Here

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Please verify that preprinted label is for correct course and module.

Teacher's Comments

_____
Teacher

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- Has your work been reread to ensure accuracy in spelling and details?
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Chemistry 30

Learn = veryWare

we explore

Talking Energy

Module 2

Assignment Booklet

Red Deer Catholic Regional Schools
EDMONTON PUBLIC SCHOOLS
Calgary Board of Education
Alberta Education

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Lesson 1 Assignment		
Lesson 2 Assignment		
Lesson 3 Assignment		

Teacher's Comments

Chemistry 30 Learn EveryWare
Module 2: Talking Energy
Assignment Booklet
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Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	

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- Alberta Education, **http://www.education.gov.ab.ca**
- Learning Resources Centre, **http://www.lrc.education.gov.ab.ca**
- Tools4Teachers, **http://www.tools4teachers.ca**

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Read all parts of your assignment carefully, and record your answers in the appropriate places. If you have difficulty with an assignment, go back to the textbook and review the appropriate lesson. Be sure to proofread your answers carefully before submitting your Assignment Booklet.

MODULE 2: LESSON 1 ASSIGNMENT

Lesson 1 Lab: Biodiesel

Quantitative Observations

1. Record the measurements for

   a. volume of oil used

   b. volume of biodiesel collected

2. Calculate the yield of biodiesel as a percentage of the volume of oil used in its production.

Qualitative Observations

3. Complete the tables below.

Observations of Reactants:	Observations of Biodiesel:
Colour: Viscosity: Clarity: Colour: Viscosity: Clarity:	Colour: Viscosity: Clarity:

Type of Fuel in Burner	Colour of Flame	Description of Smoke Produced	Other Observations
Olive Oil			
Methanol			
Biodiesel			

Observations: Testing Biodiesel

4. Construct a data table to record and organize the data from the calorimetric test of olive oil, methanol, and biodiesel produced from olive oil.

5. Calculate the energy of combustion per gram of fuel for each of olive oil, methanol, and biodiesel.

6. Rank the three materials tested with respect to increasing energy content per gram of substance.

7. Does the process you undertook to make biodiesel improve the energy content per gram of the oil? Use the data from the experiment to support your answer.

8. Use the Internet or other resources available to you to provide reasons why biodiesel is produced by a chemical process and vegetable oil is not used directly as a fuel.

MODULE 2: LESSON 3 ASSIGNMENT

Lesson 3 Assignment: Catalysts

1. Design an experiment you could carry out to test the hypothesis that changing the catalyst will not affect the production of biodiesel.

   Your design must include the following parts:

   - statement of problem being investigated
   - list of variables for this investigation with each variable identified as manipulated, controlled, or responding
   - description of how the experiment will be conducted
   - description of how certain variables will be controlled during the experiment
   - identification of how you will determine a "result" in this experiment
   - description of the experimental control for this investigation
   - description of how data collected from the experiment would be used to answer the research problem posed

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